

### **REMARKS**

This responds to the Office Action mailed on June 20, 2006, and the references cited therewith.

Claims 2, 17, 18, 19, 20 and 40 have been cancelled without prejudice to their prosecution in another application. As a result, claims 1, 3-16, 21-39 and 41 are pending. However, claims 3-5, 8-11, 21-24, 29-38 and 41 have been withdrawn from consideration by the Examiner in response to the requirement for restriction. Accordingly, claims 1, 6, 7, 12-16, 25-28 and 39 are currently being examined.

Claims 1, 6, 12, 13, 25 and 39 have been directed to nucleic acids or probes consisting of SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13 or SEQ ID NO:14. Support for the language can be found throughout the application and claims as originally filed, for example, in original claim 6 and in the Examples.

Applicant submits that these amendments add no new matter to the specification or claims.

#### ***Restriction Requirement***

The Examiner has made the Restriction Requirement final. Accordingly, after the amendments described herein, claims 1, 6, 7, 12-16, 25-28, and 39 are currently being examined. Moreover, the Examiner has stated that the requirement for election of SEQ ID NO:11-14 is not a species election but rather a restriction requirement. The Examiner therefore requires restriction of the claims to SEQ ID NO:11-14.

Applicant requests rejoinder of the non-elected claims and species upon allowance of a generic claim. Applicant further reserves the right to file continuation and divisional applications directed to the non-elected subject matter.

#### ***Objection to the Claims***

The Examiner objects to claims 1, 2, 12-16 and 40 as drawn to non-elected SEQ ID NO. Claims 2 and 40 have been cancelled without prejudice to their prosecution in another application. The claims as currently presented are drawn to the elected species.

The Examiner alleges that claims 1, 2, 6 and 7 are drawn to the same subject matter. Claim 2 has been cancelled. Note that relative to claim 1, claim 6 contains the phrase “that can selectively hybridize to DNA from *Salmonella typhimurium*” and claim 7 further specifies that “the nucleic acid selectively hybridizes to DNA from *Salmonella typhimurium* in the presence of DNA from at least one other bacterial species of the family *Enterobacteriaceae*.” Applicant submits that the language of claims 1, 6 and 7 is distinct and that no further amendment is needed.

Applicant respectfully requests withdrawal of these objections to claims 1, 2, 6, 7, 12-16 and 40.

***Rejection under 35 U.S.C. §112, first paragraph***

Claims 1, 2, 6, 7, 12-16, 25-28, 39 and 40 have been rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking written description. According to the Examiner, the application does not adequately describe nucleic acids *comprising* SEQ ID NO:11-14.

While Applicant disagrees with the Examiner’s assessment of the written description of the invention, the claims as currently presented are drawn to nucleic acids and probes consisting of SEQ ID NO:11-14.

Applicant respectfully requests withdrawal of this rejection of claims 1, 2, 6, 7, 12-16, 25-28, 39 and 40 under 35 U.S.C. §112, first paragraph.

***Rejection under 35 U.S.C. §102(b)***

Claims 1, 2, 6 and 7 have been rejected under 35 U.S.C. §102(b) as allegedly anticipated by either of Accession No. AF029556 or Accession No. BB242553.

Accession No. AF029556 and Accession No. BB242553 provide sequences for nucleic acids with 944 and 242 bases, respectfully. Thus, the nucleic acids disclosed by Accession No. AF029556 or Accession No. BB242553 are much longer than Applicant’s nucleic acids. In particular, the claims as currently presented are drawn to nucleic acids and probes consisting of SEQ ID NO:11-14, whose sequences are provided below.

Sequence	SEQ ID	Position in
	NO:	SEQ ID NO:1
GCTGTGTGGTTTCCTCG	11	461-477
AATCCGGCACC GGCCCTC	12	656-673
TCCGGAAGATGCGGAAA	13	423-439
AATCCGGCACC GGCCCTC	12	656-673
TCCGGAAGATGCGGAAA	13	423-439
ATTTCTTCACCTTCCT	14	488-504

The AF029556 and BB242553 disclosures provide no teaching or reason to select a shorter sequence from these very long nucleic acid sequences. Nor do these Accession Nos. provide any disclosure of nucleic acids that can selectively hybridize to *Salmonella typhimurium* nucleic acids. Accordingly, Accession No. AF029556 and Accession No. BB242553 do not disclose every element of the present invention.

Applicant respectfully requests withdrawal of this rejection of claims 1, 2, 6 and 7 under 35 U.S.C. §102(b).

#### ***Rejections under 35 U.S.C. §103(a)***

Two separate rejections under section 103(a) were made by the Examiner. These two rejections are separately discussed below.

#### **Accession Nos. AF029556 or BB242553**

Claims 12, 39 and 40 have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable in view of Accession No. AF029556 or Accession No. BB242553.

Claim 40 has been cancelled. Claims 12 and 39 are directed to a biosensor chip that comprises a nucleic acid that consists of SEQ ID NO:11-14.

Although the Accession No. AF029556 and BB242553 disclosures are limited to nucleic acid sequences and provide no teaching of biosensors, the Examiner asserts that one of ordinary

skill in the art would be motivated to make a biosensor chip because such a chip would be useful in detecting nucleic acids complementary thereto.

Applicant submits, first, that a bald disclosure of a nucleic acid sequence with no mention of function or unique segments of such a nucleic acid provides no motivation to one of skill in the art to design a biosensor. Moreover, as described above, Accession Nos. AF029556 and BB242553 provide sequences for nucleic acids with 944 and 242 bases, respectfully. Thus, the nucleic acids disclosed by Accession Nos. AF029556 and BB242553 are much longer than Applicant's nucleic acids and probes. No disclosure, teaching or motivation is provided by Accession Nos. AF029556 and BB242553 to find shorter, more selective probes.

Moreover, the claims as currently presented are drawn to nucleic acids and probes consisting of SEQ ID NO:11-14, and as stated by the Examiner, nucleic acids consisting of SEQ ID NO:11-14, and methods of use thereof represent patentable subject matter.

Applicant respectfully requests withdrawal of this rejection of claims 12, 39 and 40 under 35 U.S.C. §103(a).

**Lane et al. in view of Accession No. AF029556**

Claims 13-16 and 25-28 have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent 5,792,854 to Lane et al. in view of Accession No. AF029556.

Claims 13-16 are directed to a method of detecting the presence of enteric bacteria in a test sample that comprises contacting the test sample with a probe under stringent hybridizations conditions, and detecting hybridization between the probe and a nucleic acid in the test sample, wherein the probe that consists of SEQ ID NO:11-14.

Claims 25-28 are directed to a method of detecting the presence of *Salmonella* in a test sample that comprises contacting the test sample with a probe under stringent hybridizations conditions, and detecting hybridization between the probe and a nucleic acid in the test sample, wherein the probe comprises isolated nucleic acid that consists of SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, or SEQ ID NO:14.

Lane et al. related to detection of salmonella rRNA. As admitted by the Examiner, Lane et al. provide no disclosure of Applicant's SEQ ID NO:11-14. However, the Examiner asserts

that one of skill in the art would have been motivated to use the *Salmonella* nucleic acid disclosed by Accession No. AF029556 in the methods of Lane et. al.

Applicant submits that the combination of Lane et al. and Accession No. AF029556 fails to disclose all elements of Applicant's claimed invention. In particular, neither Lane et al. nor Accession No. AF029556 disclose the particular nucleic acids of Applicants invention that consist of SEQ ID NO:11-14.

Moreover, neither Lane et al. nor Accession No. AF029556 provide any recognition that the present SEQ ID NO:11-14 have the unique ability to hybridize selectively to *Salmonella*. Hence, these references would not motivate the skilled artisan to seek shorter, more selective sequences.

In addition, one of skill in the art could not reasonable expect to successfully derive the present SEQ ID NOs from Lane et al. and Accession AF029556 because these disclosures provide no guidance in selecting the present sequences. Moreover, the Lane et al. reference is limited to rRNA probes whereas Applicant's nucleic acids are part of the gene that encodes the enzyme deoxyguanosine triphosphate triphosphohydrolase. Hence, consultation of Lane et al. would not guide the skilled artisan to the hybridization specificity of SEQ ID NO:11-14 that has been achieved by the present invention.

Finally, as stated by the Examiner, nucleic acids consisting of SEQ ID NO:11-14, and methods of use thereof represent patentable subject matter.

Applicant respectfully requests withdrawal of this rejection of claims 13-16 and 25-28 under 35 U.S.C. §103(a).

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (516) 795-6820 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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This paper or fee is being filed on the date indicated above using the USPTO's electronic filing system EFS-Web, and is addressed to: The Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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